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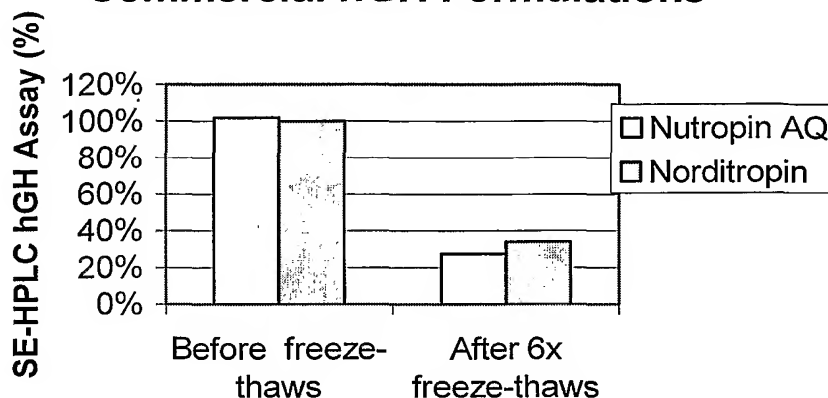
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(54) Title: STABLE GROWTH HORMONE LIQUID FORMULATION

### Freeze-Thaw Stability of Two Commercial hGH Formulations



(57) Abstract: The present invention is directed to stable liquid growth hormone formulations that remain stable after physical agitation, and after exposure to one or more freeze-thaw events. Formulations of the present invention can be stored long term at a variety of temperatures, even frozen. In the present invention, a combination of buffer and stabilizing agents, including a non-ionic surfactant (e.g., polysorbate 20), a polymer stabilizer (e.g., polyethylene glycol), and other optional stabilizers combine to provide unexpected stability to aqueous formulations of a growth hormone (e.g., human growth hormone).

WO 2005/063298 A1